UR Medicine Project ECHO®: Improving Access to Complex Care through Videoconferencing

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Acknowledgements

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  - Project ECHO®, University of New Mexico (UNM)

(Slides adapted from those of Sanjeev Arora, MD, UNM Professor)
Cost of "Complex" Population

5% of U.S. population account for half (49%) of health care spending¹

- $43,212 average expenditure per person per year

50% of U.S. population account for only 3% of health care spending

- $253 average expenditure per person per year

"Superutilizers"
Shorthand term for people with complex physical health, behavioral health, and social issues who have high rates of utilization for ER and hospital services²

80% of Superutilizers have a mental illness

44% of Superutilizers have a Severe Mental Illness

The Underserved “Complex” Patients

**PROBLEM:**
Underserved patients have limited access to quality specialist care for common complex conditions.

**SOLUTION:**
A model that expands access to care by leveraging telementoring and guided practice to build system capacity by empowering community based providers to care for complex conditions in their local community.

**LOCAL NEEDS:**
- Behavioral health conditions are the 3rd most frequent primary diagnosis cluster seen in the ED
- Behavioral health disorders represent the **MOST** frequently occurring principal diagnosis cluster for inpatient utilization leading to re-admission
- Increasing need for advance care planning and palliative care for chronic illnesses among frail older adults
- Rapid growth of palliative care teams in hospitals but this trend has not been matched by similar developments in primary care settings or nursing homes
Lack of Specialists

PROBLEM:

• Community based providers lack access to decision making support around specialty care for complex patients
• Rural providers often feel socially and professionally isolated
• Want to advance their skills, and professional relationships

SOLUTION:

A model that allows providers to engage in a community with like-minded fellow providers and specialists from academic centers.

LOCAL NEED:

• **11** out of 14 counties in the Finger Lakes Region of NY are designated Health Provider Shortage Areas (HPSA) for Primary Care
• **8** out of 14 counties in Finger Lakes Region are designated HPSA for Mental Health Care
• Psychiatry providers are the most difficult providers to recruit for NYS Federally Qualified Health Centers
• All academic/teaching hospitals in New York State have some type of palliative care program but less than half of rural areas have any formal access to palliative care other than hospice programs
One solution: Project ECHO®

Extension for Community Healthcare Outcomes

- **Echo® Hub**
  Team of Specialists

- **Echo® Spoke**
  Front-line Clinicians

- **Patient Reach**

- “One to Many” – Leveraging a proven telementoring model to significantly increase access to specialty care for common complex conditions

- Hubs & Spokes - Links expert specialist teams at an academic ‘hub’ with front-line clinicians in local communities – the ‘spokes’ of the model
How Project ECHO® Works

- Use Technology (multipoint videoconferencing and Internet)
- Disease Management Model focused on reducing variation in processes of care and sharing “best practices”
- Case based learning through three main routes:
  1. Learning Loops
  2. Knowledge Networks
  3. Content Knowledge

Arora (2013); Supported by N.M. Dept. of Health, Agency for Health Research and Quality HIT Grant 1 UC1 HS015135-04, New Mexico Legislature, and the Robert Wood Johnson Foundation.
Background of Project ECHO®

Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers

Sanjeev Arora, M.D., Karla Thornton, M.D., Glen Murata, M.D., Paulina Deming, Pharm.D., Summers Kalishman, Ph.D., Denise Dion, Ph.D., Brooke Parish, M.D., Thomas Burke, B.S., Wesley Pak, M.B.A., Jeffrey Dunkelberg, M.D., Martin Kistin, M.D., John Brown, M.A., Steven Jenkusky, M.D., Miriam Komaromy, M.D., and Clifford Qualls, Ph.D.

Project ECHO® Geriatric Mental Health (GEMH) for Primary Care (PC)

September 18, 2014 – February 4, 2016

33 TeleECHO™ clinics
520 total attendees
15.8 attendees on average per TeleECHO clinic
244 Continuing Medical Education (CME) credits
65 patient case presentations
   59 new and 6 follow up patient cases
33 Evidence-based didactic presentations
Participants in ECHO® GEMH for PC

- Primary Care Practices
  - Hospital system affiliated
  - Accountable care affiliated
  - Provider owned group
- Federally Qualified Health Centers
- Health Service Corporations
- County Department of Aging Centers
## Findings: Diagnoses

### Health care utilization among Excellus beneficiaries aged 65+ with GEMH diagnosis

<table>
<thead>
<tr>
<th>Description</th>
<th>Before ECHO® GEMH</th>
<th>After ECHO® GEMH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median number of Excellus beneficiaries (aged 65+) attributed to each participating practice during the study period</td>
<td>561</td>
<td>577</td>
</tr>
<tr>
<td>Average percentage of Excellus beneficiaries (aged 65+) attributed to each practice diagnosed with a mental health condition*</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>...with depression diagnosis</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>...with anxiety diagnosis</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>...with dementia diagnosis</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>...with adjustment disorder diagnosis</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
## Findings: Utilization by GEMH patients

### Health care utilization among Excellus beneficiaries aged 65+ with GEMH condition*

<table>
<thead>
<tr>
<th>Utilization Variables (average use per patient)</th>
<th>Mean: Before ECHO® GEMH</th>
<th>Mean: After ECHO® GEMH</th>
<th>% Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Visits</td>
<td>0.276</td>
<td>0.23</td>
<td>-16%</td>
<td>0.21</td>
</tr>
<tr>
<td>Outpatient Visits</td>
<td>4.175</td>
<td>3.93</td>
<td>-6%</td>
<td>0.29</td>
</tr>
<tr>
<td>ER Visits</td>
<td>0.829</td>
<td>0.67</td>
<td>-20%</td>
<td>0.08</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>0.372</td>
<td>0.41</td>
<td>10%</td>
<td>0.26</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>0.590</td>
<td>0.56</td>
<td>-4%</td>
<td>0.60</td>
</tr>
</tbody>
</table>

*Patients who do not have a mental health condition of interest are those who have not received a diagnosis of anxiety, depression, dementia or adjustment disorder, or who have not filled prescriptions for a medication that treats one of these mental health conditions.
### Findings: Cost of Care for GEMH Patients

#### Health care costs for Excellus beneficiaries aged 65+ with GEMH condition*

<table>
<thead>
<tr>
<th>Cost Variables (average cost per patient, $)</th>
<th>Mean: Before ECHO® GEMH</th>
<th>Mean: After ECHO® GEMH</th>
<th>% Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Costs</td>
<td>$2,560.72</td>
<td>$2,198.09</td>
<td>-14%</td>
<td>0.22</td>
</tr>
<tr>
<td>Outpatient Costs</td>
<td>$1,405.57</td>
<td>$1,402.93</td>
<td>0%</td>
<td>0.98</td>
</tr>
<tr>
<td>ER Costs</td>
<td>$406.37</td>
<td>$310.71</td>
<td>-24%</td>
<td>0.049</td>
</tr>
<tr>
<td>Prescription Costs</td>
<td>$1,938.35</td>
<td>$1,712.85</td>
<td>-12%</td>
<td>0.60</td>
</tr>
<tr>
<td>Total Costs</td>
<td>$7,725.34</td>
<td>$7,142.97</td>
<td>-8%</td>
<td>0.16</td>
</tr>
</tbody>
</table>

*Patients with a mental health condition of interest are those who have not received a diagnosis of anxiety, depression, dementia or adjustment disorder, or who have not filled prescriptions for a medication that treats one of these mental health conditions.
Provider Level Outcomes

Qualitative Interviews:

- Program was valuable and offered useful support or insight
- Improved knowledge related to geriatric mental health
- Improved the care they provided to patients
- Common barrier was lack of time
- Reported increased access to professional support
- Appreciated the real-time, “in-person” interaction
- Increased confidence in handling complex cases
- Major value – opportunity to be part of a interdisciplinary team-based collaborative
Project ECHO® GEMH for Long Term Care (LTC)

December 3, 2015 – September 18, 2017

67 TeleECHO™ clinics
2927 total attendees
43.7 attendees on average per TeleECHO clinic
1169 Continuing Medical Education (CME) credits
96 patient case presentations
  - 87 new and 9 follow up patient cases
67 Evidence-based didactic presentations
Project ECHO® GEMH for the Office of Mental Health

June 27, 2017 – September 18, 2017

5 TeleECHO™ clinics
302 total attendees
60.4 attendees on average per TeleECHO clinic
79 Continuing Medical Education (CME) credits
5 patient case presentations
5 Evidence-based didactic presentations
January 2017-April 2017

5 TeleECHO clinics
118 attendees total
25 attendees average per TeleECHO clinic.

23 participating community sites: 5 hospitals, 2 home care agencies, 3 hospices, 5 Nursing Homes, 2 palliative care outpatient clinics, 5 primary care practices, and 1 outpatient oncology practice

5 Evidence based didactic presentations
## UR Medicine Project ECHO® Expansion

<table>
<thead>
<tr>
<th>ECHO® Focus</th>
<th>Department</th>
<th>Faculty Lead</th>
<th>Projected Launch</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEMH-LTC</td>
<td>Psychiatry</td>
<td>Jennifer Richman, MD</td>
<td>December 2015</td>
</tr>
<tr>
<td>GEMH-OMH</td>
<td>Psychiatry</td>
<td>Elizabeth Santos, MD, MPH</td>
<td>June 2017</td>
</tr>
<tr>
<td>General Psychiatry</td>
<td>Psychiatry</td>
<td>Jennifer Richman, MD</td>
<td>March 2016</td>
</tr>
<tr>
<td>Palliative Care</td>
<td>Geriatric Medicine</td>
<td>Thomas Caprio, MD, MPH</td>
<td>January 2017</td>
</tr>
<tr>
<td>Eating Disorders</td>
<td>School of Nursing</td>
<td>Mary Tantillo, PhD, PMHCNS-BC, FAED, CGP</td>
<td>January 2017</td>
</tr>
<tr>
<td>Autism</td>
<td>Pediatrics</td>
<td>Susan Hyman, MD</td>
<td>June 2017</td>
</tr>
<tr>
<td>Hospitalist</td>
<td>Hospital Medicine</td>
<td>Andrew Rudmann, MD</td>
<td>January 2017</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>CTSI</td>
<td>Thomas Fogg, MS, MPH</td>
<td>June 2017</td>
</tr>
<tr>
<td>STD</td>
<td>CTSI</td>
<td>Thomas Fogg, MS, MPH</td>
<td>October 2016</td>
</tr>
<tr>
<td>HIV</td>
<td>CTSI</td>
<td>Thomas Fogg, MS, MPH</td>
<td>January 2017</td>
</tr>
<tr>
<td>Eye Disease</td>
<td>Ophthalmology</td>
<td>Rajeev Ramchandran, MD</td>
<td>August 2017</td>
</tr>
</tbody>
</table>
Recognition of Our Work

- Centers for Medicare & Medicaid Services (CMS)
- Substance Abuse and Mental Health Services Administration (SAMHSA)
- State of New York Department of Health (DOH)
- Advancing Excellence in Health Care (AHRQ)
- Office of Mental Health (NY)

*Medicine of the Highest Order*
What are the Challenges?

- Long term funding mechanism for ECHO® infrastructure
- Widespread implementation of an educational model currently not tied to value based purchasing contracts
  - Savings accrue to the insurer
  - Savings accrue to our competitors
- Misaligned incentives under fee-for-service
Model Sustainability

H.R. 5395: ECHO Act

- Signed into a law on December 14, 2016
- Requires the Secretary of the U.S. Department of Health and Human Services (HHS), in collaboration with the Health Resources & Services Administration to prioritize analysis of the model, its impacts on provider capacity and workforce issues, and evidence of its effects on quality of patient care
- Requires the U.S. Government Accountability Office to report on how to integrate this model into current funding streams and innovative grant proposals
Reimbursement for ECHO® Infrastructure

**Approaches**

- **Managed Care:** Capitation Rate
- **Accountable Care Model:** Shared Savings
- **Patient Centered Medical Home Funding**
- **Delivery System Reform Incentive Payment (DSRIP)**

**State Examples**

- **New Mexico:** Centennial Care
- **Oregon:** Health Share of Oregon
- **Colorado:** Accountable Care Collaborative Chronic Pain Disease Management Program
- **Texas:** Baylor St. Luke’s Medical Center, DSRIP
- **New York:** UR Medicine, DSRIP
Potential Benefits of Project ECHO® to the Health System

- Quality and Safety
- Rapid Learning and best-practice dissemination
- Reduce variations in care
- Access for Rural and Underserved Patients
- Workforce Training and Force Multiplier

- De-monopolize Knowledge
  - Improving Professional Satisfaction/Retention
  - Cost Effective Care- Avoid Excessive Testing and Travel
  - Prevent Cost of Untreated Disease
  - Integration of Public Health into treatment paradigm
Conclusions

- ECHO® model is a robust method to safely and effectively treat common and complex diseases in underserved areas and to monitor outcomes

- UR Medicine - expansion to other disorders already underway

- Sustainability
Medicine of the Highest Order